

DUAL PURPOSE DISPLAY FIXTURE

DESCRIPTION

[Para 1] Related Applications: This application is a continuation of serial number 10/711,010 filed on August 17, 2004, pending.

[Para 2] Field of the Invention: This invention relates to the field of watering systems for plants, and particularly to the field of a bench or table top watering system.

[Para 3] Background of the Invention

[Para 4] Garden centers, nurseries, florists and other places where flowers, plants and trees are sold or displayed use display stands for the display of those plants. These display stands may be simply tables, but can also be designed not only to display the plants but to provide watering for those plants as well.

[Para 5] One problem with the existing display stands is the bulk of the stands. Since access is normally provided on both sides of the display stands, these stands tend to take up considerable space. This is particularly a problem when the display stands are used for seasonal displays. Once the seasonal display is no longer needed, the space occupied by the display stands is wasted. Since space is typically at a premium, these display stands are an expense that must be borne by the center. Additionally, the empty display stands are unappealing. While the display stands may be used for other purposes, this use is typically inefficient.

[Para 6] One attempt to solve this problem is to disassemble the displays when no longer needed for a particular season. This requires considerable time in disassembly and then reassembly. The disassembled tables must be stored and hopefully the parts are not lost. Also, the tables may be to be moved or taken down which can be very labor intensive.

[Para 7] Many garden centers, nurseries, florists, etc. also use hanging displays to display their plants. Since display space is at a premium, it is often useful to combine the display stands and hanging displays.

[Para 8] Thus a need exists for a plant display system for providing a display table that can be compactly stored.

[Para 9] Summary of the Invention

[Para 10] The present invention provides solutions to these and other needs by providing a display structure for use in garden centers, nurseries as well as other retail centers. The display structure of the present invention is able to convert from use as a primary display to a secondary display or to a storage position.

[Para 11] In a preferred embodiment of the present invention, the display structure includes several display cases for displaying plants, flowers, and other items. The display cases are able to pivot from the horizontal display position to a vertical position as a secondary display or storage. This enables the space that was occupied by the display cases to be utilized for other products, most noticably Christmas trees, or other seasonal displays. The display structures may also be stacked together for storage as well.

[Para 12] In another embodiment of the present invention, the display structures provide an elongated bracket for supporting hanging plants.

[Para 13] In another embodiment of the present invention, the system provides a self watering system for display structures for plants. The system of the present invention provides a watering system for an attractive display for retail and wholesale sales of plants. The system of a preferred embodiment of the present invention allows plants to self water and maintain themselves without the intervention of workers.

[Para 14] In a preferred embodiment of the present invention, the system provides a display structure that self waters plants without the need of special plant containers. Ordinary plant containers of any size, shape and color may be used as long as they have a typical drain hole on the bottom or

sides near the bottom of the container. The plants may be moved or replaced without concern.

[Para 15] The system of a preferred embodiment provides a self watering system that is clean and attractive and does not detract from the display of the plants. The self watering system is hidden and not visible to customers.

[Para 16] The system of a preferred embodiment is simple and does not require expensive controls or equipment that would require constant maintenance. Once the system is setup, it is simple to maintain and only occasionally requires maintenance.

[Para 17] Water is supplied evenly to all parts of the capillary mat so that plants are able to self water without regard to their location on the display structure. The reservoir is able to support the capillary mat and plants without the capillary mat sitting in the water itself.

[Para 18] In another embodiment, the folding display system does not use the self water features. Instead, the system utilizes expanded metal or other decking material and the plants are periodically manually watered.

[Para 19] These and other features of the present invention are evident from the ensuing description of preferred embodiments and from the drawings.

[Para 20] Brief Description of the Drawings

[Para 21] Figure 1 illustrates a display structure for plants of a preferred embodiment of the present invention.

[Para 22] Figure 2 illustrates an end view of the display structure of the embodiment of Figure 1.

[Para 23] Figure 3 illustrates the pivoting display case of the embodiment of Figure 1.

[Para 24] Figure 4 illustrates an end view of Figure 3.

[Para 25] Figure 5 illustrates an end view of the display cases pivoted in a vertical orientation.

[Para 26] Figure 6 is a perspective view of Figure 5.

[Para 27] Figure 7 is another preferred embodiment of the display structure of the present invention.

[Para 28] Figure 8 is a perspective view of the embodiment of Figure 7 with the display cases in a vertical orientation.

[Para 29] Detailed Description of Preferred Embodiments

[Para 30] The present invention provides a system for providing an attractive display for plants. It is to be expressly understood that the descriptive embodiments set forth herein are intended for explanatory purposes and is not intended to unduly limit the scope of the claimed inventions. Other embodiments and applications not described herein are considered to be within the scope of the invention. It is also to be expressly understood that while specific embodiments for the components of the system are discussed, other equivalents to these embodiments that perform substantially similar functions are within the scope of the claimed inventions.

[Para 31] A preferred embodiment of the present invention is illustrated in Figures 1 – 5. The display stand 10 of this embodiment includes a rigid frame 20 having vertical members 22, 24 mounted on a lower base stand 30. Lower base stand includes cross members 32, 34 and vertical base members 36, 38, 40, 42, 44, 46. Angled support members 48, 50, 52, 54 also secure vertical members 22 – 28 to lower base stand 30. Cross members also support vertical members 22, 24. It is to be expressly understood that the display structure may be formed in other embodiments and structural mechanisms. The display stand is intended to support the pivotable display cases as discussed below.

[Para 32] Display cases 70, 72 are secured to the lower base stand 30 by pivotal attachment mechanism 74, 76, 78, 80. These pivotal attachment mechanisms may include bolt and nut attachments, rivets, or any other mechanism that will secure the display cases to the lower base stand while allowing for pivoting movement of the display cases relative to the lower base stand. Detent mechanisms are provided on the lower base unit to hold the

display cases 70, 72 in place relative to the lower base unit when in the horizontal position.

[Para 33] Display case 82 is also secured to the cross members 60, 62 by pivot attachment mechanisms 84, 86. The display case is thus secured to the display stand while pivotal relative to the cross members. A detent mechanism is also provided to secure the display case 82 in place relative to the display stand when the display case is in the horizontal position.

[Para 34] In this preferred embodiment, beams 90, 92 and 94, 96 are secured to the upper end of the display stand on the vertical members 22, 24.

Hanging plants may be mounted from these structure members or display cases may be mounted to these structure members. In this embodiment, the structure members or display cases are mounted permanently at an angle, although in other embodiments, the tops may be pivotally mounted as well.

[Para 35] In use, the display stand 10 is set up as shown in Figures 1 and 2. Since many of the plant displays are seasonal, the stand is not always needed. In that situation, the display cases 70, 72, and 82 are simply rotated upwards toward the center of the display stand, as shown in Figures 3 – 6. Once the display cases are perpendicular to the ground, as shown in Figure 5, additional space is freed to allow the display stands to be stored away, or other displays placed where the display cases had been formerly.

[Para 36] Another feature in a preferred embodiment of the present invention is the ability to attach additional display stands to one another. As shown in Figure 7, display stand 100 is attached integrally to display stand 10. Display case 182 is pivotally secured between vertical members 24 of display stand 10 and vertical members 120. Similarly, lower display cases 170, 172 are pivotally attached to lower base unit vertical members 42, 44, 46 and lower base unit vertical members 142, 144, 146. The upper structure members or display cases 190, 192 are secured between the upper end of vertical members 24 and vertical member 120.

[Para 37] The display cases 170, 172, 182 are able to pivot into a vertical orientation in a manner similar to display cases 70, 72, 82. As shown in Figure 8, the display cases 70, 72, 82, 170, 172, 182 are pivoted vertically

upward when they are no longer needed. This provides additional space for other displays or for storage.

[Para 38] The systems may be used as plant display systems with or without watering systems built in. The above-described embodiment utilizes display tops that allow not only plants but other types of seasonal or permanent products to be displayed as needed while allowing for the storage of the display tops in a compact manner when not needed.

[Para 39] In another preferred embodiment, the above-described embodiment may be used with a built-in self watering system such as the system described in related patent application 10/613,370, filed on July 2, 2003. This system provides a reservoir on the display tops. The reservoir includes a perforated material formed of a honeycomb material, such as plastic, rubber, metallic or any other suitable material. The perforations or honeycombs are evenly spaced across the top of the table. The perforations may be cylindrical, or in one preferred embodiment includes one or more layers of a mesh material. This minimizes stagnation and pollution of water that may be in the reservoir for some time.

[Para 40] It is to be expressly understood that the reservoir could also include other water containing mechanisms, such as horizontal channels, or even a sponge like material that is firm enough to support the capillary mat and plants contained thereon.

[Para 41] A supply pipe extends across one side of the reservoir top connected through either the undersurface, side or over the rails of the top to a water source. The supply pipe includes a series of evenly spaced perforations. In this preferred embodiment, the top also includes stand pipes in opposing corners of the top to prevent overfilling of the top.

[Para 42] The water supply pipe can be connected to a water hose or plumbed to a permanent connection. The water supply pipe can also be interconnected to water supply pipes on additional display tables as well.

[Para 43] A capillary mat is placed over the honeycomb reservoir. In the preferred embodiment, capillary mat is formed from a woven barrier fabric

that will wick water and other fluids evenly upward from the honeycomb reservoir. It is to be expressly understood that other materials may be used as well, including spandex, polyethylene and other woven or materials that are suitable for wicking water. Also, mesh material may be used that is resistant to organic growth to minimize contamination, bacteria, fungus or other organic growth that may result from standing water and from the plants.

[Para 44] In use, plants in containers filled with potting media, soil or other organic bases are placed on the capillary mat. Water is provided through the supply pipe. The water flows through the perforations evenly into the reservoir until the reservoir is filled with water. The capillary mat absorbs the water until it is saturated. The potting media in the plant container absorbs the water through existing drain holes in the plant container to make it available to plant roots. This constant source of water allows the plant to self water for days without the need to refill the reservoir or the need for special attention as normal plant watering requires.

[Para 45] It is to be expressly understood that other embodiments of the present invention are included in the claims. The above explanatory embodiments are provided for descriptive purposes only.